

Eagles: From Symbol to Survival

For use with: *Arizona Wildlife Views Television Show, 07-08 Season, Episode 7*



Human-Environment Interactions; Symbolism

Time Frame: 2-3 hours

Grade: 4-8

Overview:

This video covers some of the recent work performed by the Arizona Game and Fish Department. Although there are segments about the youth archery camps and the remodeling of the Clay Target Center, most of this lesson will focus on the delisting of the bald eagle from the endangered species list. Students will evaluate symbols and select a new animal to represent the country.

Essential Questions

- How can human activities benefit and harm wildlife?
- What factors influence an individual's perceptions and opinions?

Objectives

- Describe how DDT increases in concentration as it moves through a food chain.
- Use characteristics to select a new animal to represent the United States.
- Use animal facts and images to develop a poster to influence the opinions of classmates.

Arizona Department of Education Standards

Science

4 th grade	5 th grade	6 th grade	7 th grade	8 th grade
S3-C1-PO1		S2-C1-PO3	S2-C1-PO3 S3-C1-PO1	S2-C1-PO3 S3-C1-PO1

Social Studies

4 th grade	5 th grade	6 th grade	7 th grade	8 th grade
S3-C1-PO1 S4-C5-PO3		S4-C5-PO2	S4-C5-PO4	S4-C5-PO1

Listening and Speaking

4 th – 8 th grades	Workplace Skills 4 th – 8 th grades
LS-E1	1WP-E-PO2

Materials and Resources

- Copy of Arizona Wildlife Views episode



Teacher Preparation

- Acquire a copy of the television show. You can check local listings to determine when it will air and record it directly. You may also check the Department's web site to see if a copy can be downloaded or ordered.
- Write the vocabulary words and questions on the board.

Background Information:

This is not a lesson plan in the traditional sense. It does not provide step-by-step directions for completing an activity. Instead, it provides information to help you use an episode of the *Arizona Wildlife Views* television program in

your classroom. It contains four suggested activities along with extensions and modifications. The first activity focuses on vocabulary. We have provided and defined some of the words used in the video. You are encouraged to use any appropriate strategies to

introduce these to your students. Then, there is a series of comprehension questions that students can answer while watching the video. Answers (directly from the video) are provided in italics. Next, the critical thinking questions build on the major concepts introduced in the video. Students need to put a little bit more thought into these questions. Some reasonable answers are provided in italics. However, teachers should be cautious and realize that students may provide additional answers that can be supported with evidence. Finally, there is an in-depth activity. This activity allows students to evaluate and synthesize one or more of the concepts from the video, perhaps applying it to a new context or utilizing additional skills.

This episode originally aired on PBS (KAET, Channel 8) in Phoenix on March 2, 2008. It may also be shown on regional PBS stations or other channels. For additional viewing information or download options, please visit <http://www.azgfd.gov/focuswild>.

Additional information about the animals featured in this episode can be found at:

- ✓ Endangered Species Program: <http://www.fws.gov/endangered/>
- ✓ Southwestern Bald Eagle Management Committee: <http://www.swbemc.org/>
- ✓ Arizona Bald Eagle Nestwatch Program: http://www.azgfd.gov/inside_azgfd/employment_eagle.shtml
- ✓ Nestwatch Program article: http://www.azgfd.gov/artman/publish/article_705.shtml
- ✓ Liberty Wildlife: <http://www.libertywildlife.org/index.asp>
- ✓ Arizona Archery in the Schools Program: http://www.azgfd.gov/i_e/archery.shtml
- ✓ Ben Avery Shooting Facility: http://www.azgfd.gov/outdoor_recreation/ben_avery.shtml
- ✓ Clay Target Center: <http://www.azgfd.gov/ctc2/index.html>

Relevant Vocabulary:

- Accumulation – the build-up of a chemical in the body due to long-term or repeated exposure
- Brood – to keep newly hatched birds warm

- Contiguous – touching or very close together

Comprehension Questions:

1. When was the bald eagle removed from the Endangered Species list? *Answer: August 8, 2007.*
2. Which famous person called the bald eagle a “generally poor” and “very lousy” animal of “bad moral character”? *Answer: Benjamin Franklin.*
3. How many bald eagles were estimated to be in the United States in the late 1800s? *Answer: 250,000.*
4. How does DDT affect the eggs of eagles? *Answer: The chemical makes the eggshells so thin that they easily fracture, resulting in large reproductive losses.*
5. How many bald eagle nesting pairs were in Arizona 30 years ago? Today? *Answer: There were 11 nesting pairs 30 years ago and there are now 43.*
6. What is unique about compound bows? *Answer: They are designed to fit anyone.*
7. What is the largest publicly operated recreational shooting facility in the country? *Answer: Ben Avery Shooting Facility.*
8. The video listed a number of safety rules to remember when handling firearms. Name two. *Answer: Treat every gun as if it was loaded. Keep the gun pointed in a safe direction. Keep your finger off the trigger until ready to shoot. Keep the gun unloaded until ready to shoot. Know your target and what’s beyond. Know how to use the gun safely. Be sure the gun is safe to operate. Wear eye and ear protection.*

Critical Thinking Questions:

1. It is believed that the plight of the bald eagle, our nation’s symbol, was a major driving force in the passage of the Endangered Species Act. Do you believe this law would have passed without the “help” of the eagle? Explain. *Answer: Obviously, answers to this question will vary. However, students should consider the impact that large, familiar animals have on public*

perception. In general, people are more willing to help animals with which they have some experience or connection. It is less likely the Endangered Species Act would have had large public support if the focus was on an animal like a frog or snake.

2. DDT is a chemical which demonstrates a process called biological magnification, in which concentrations of a chemical increase as you move up a food chain. Explain how you believe this process occurs. *Answer: The chemical usually appears at very small concentrations and enters the food chain at a low level. These organisms are then eaten by larger predators. However, since energy is lost as we move up the food chain, these predators need to eat more of the smaller organisms. As they eat more, they get exposed to larger amounts of the chemical. Eventually, the animals at the top of the food chain are receiving the chemical at a much higher concentration than it originally entered the environment.*

In-Depth Activity: A National Symbol

Along with the American flag, the bald eagle is one of the most recognizable symbols of the United States. However, this was not always the case. Some people believed the eagle was a bad representative of the country and many recommended other animals. In fact, Benjamin Franklin thought the turkey would make a better symbol. What do you think?

Pretend we have gone back to the 1780s. You are part of a committee responsible for selecting an animal that best represents our country. What would you choose? Why? Are there particular characteristics of this animal that remind you of our country?

Part of your responsibility on this committee is to convince other people that your animal is the best choice. Create a poster that you believe will influence the rest of your committee (or class or school) that they should choose your animal. Be sure to use words and images that positively portray it.

Once your poster is completed, give a brief presentation to the committee. When all presentations have been given, it is time for the committee to vote.



Differentiated Instruction:

Extensions:

- **Art:** Animals are often used as symbols. These symbols are also very powerful tools for advertisers. People relate to animals in very specific ways. Look at the ads and commercials in a magazine or on television. How many ads use an animal? How are these animals used? Which ones are portrayed in a negative manner? Pretend you have been hired by a company to promote their newest product. Choose from one of the following products: mp3 player, energy drink, cell phone, shoe, or hybrid car. Develop an advertisement that could appear in a popular magazine. Make sure that your ad uses at least one animal.
- **Reading:** Read the book *Silent Spring* by Rachel Carson. As you read consider the following questions: 1) What is your reaction to the book? 2) What was her purpose for writing the book? 3) Who was her intended audience? 4) Why did she call it *Silent Spring*? 5) Why do you think this book is so important? 6) Why was it so effective?
- **Science:** Use the Internet to research DDT. How did it get into the environment? How did it enter the eagle's system? How much exposure, if any, is safe to eagles? How long does it last in the environment? Why does it impact the eggs in the way that it does? Why was it used as a pesticide? What replaced it when it was banned?
- **Social Studies:** The passage of the Endangered Species Act was a monumental moment in the history of conservation in the United States. However, it was just one such moment. Create a timeline of major conservation events, such as the creation of the first National Wildlife Refuge and the passage of the Wilderness Act.

Modifications:

- Create a student handout with the vocabulary words and questions already provided.
- Provide students with the definitions and have them match them to the appropriate vocabulary words.
- Provide fill-in-the-blank responses for the Comprehension Questions, allowing students to listen for appropriate words to complete the sentences.



Reflection:

Use the space below to reflect on the success of the lesson. What worked? What didn't? These notes can be used to help the next time you teach the lesson. In addition, the Department would appreciate any feedback. Please visit <http://www.azgfd.gov/focuswild> and submit a lesson evaluation.